In The Claims

1. (currently amended) An audio speaker system comprising:

a speaker driver for reproducing sound within an extended frequency range that includes a high frequency band between 8 kHz and 11 kHz; and

a horn ~~disposed adjacent said speaker driver~~ having a throat and a mouth with ~~that has~~ an axi-symmetrical waveguide surface ~~with an annular cross-section~~ extending therebetween, said throat disposed substantially adjacent said speaker driver, said waveguide surface having a circular cross-section along its entire length between said throat and said mouth, and said waveguide surface dispersing sound within the extended frequency range at a dispersion angle greater than 90 degrees.

2. (original) An audio speaker system according to claim 1, wherein:

said waveguide surface provides uniform polar dispersion at dispersion angles greater than 90 degrees for sound within the extended frequency range.

3. (original) An audio speaker system according to claim 1, wherein:

the extended frequency range includes a wide frequency band between 2 kHz and 11 kHz.

4. (original) An audio speaker system according to claim 1, wherein:

the extended frequency range includes a wide frequency band between 800 Hz and 11 kHz.

5. (currently amended) An audio speaker system according to claim 1, wherein:

said waveguide surface has ~~a throat disposed substantially adjacent said speaker driver, a mouth disposed opposite said throat, and~~ a radial dimension that increases curvilinearly from said throat to said mouth.

6. (original) An audio speaker system according to claim 5, wherein:

a portion of said waveguide surface defines a tractroid surface.

7. (original) An audio speaker system according to claim 5, wherein:

a portion of said waveguide surface has length that is exponentially related to the area of its mouth.

8. (original) An audio speaker system according to claim 5, wherein:

a portion of said waveguide surface is curvilinear with a smooth flare rate.

9. (original) An audio speaker system according to claim 5, wherein:

length of said waveguide surface is approximately 1.125 inches.

10. (currently amended) An audio speaker system according to claim 1 [[5]], wherein:

area of said throat is approximately 0.192 square inches.

11. (currently amended) An audio speaker system according to claim 1 [[5]], wherein:

area of said mouth is approximately 1.777 square inches.

12. (original) An audio speaker system according to claim 1, wherein:

said speaker driver includes a radiating dome-shaped surface.

13. (original) An audio speaker system according to claim 1, wherein:

said speaker driver is rear-vented into a rear chamber that dissipates low frequency sound components.

14. (original) An audio speaker system according to claim 1, further comprising:

an annular gasket disposed in annular grooves outside a throat area of said horn.

15. (original) An audio speaker system according to claim 14, wherein:

said annular gasket is formed from a foam material.

16. (original) An audio speaker system according to claim 1, wherein:

said speaker driver comprises a ring-shaped neodymium magnet.

17. (original) An audio speaker system according to claim 1, wherein:

said speaker driver and horn are disposed coaxially with a low frequency speaker to thereby realize an integrated multi-element system.

18. (original) An audio speaker system according to claim 1, further comprising:

cross-over circuitry, operably coupled to said speaker driver, that provides high pass filtering with a cutoff frequency corresponding to the extended frequency range of said speaker driver.

19. (currently amended) An audio speaker system comprising:

a speaker driver for reproducing sound within an extended frequency range that includes a high frequency band between 8 kHz and 11 kHz; and

a horn[[,]] ~~disposed adjacent said speaker driver~~[[,]] having a throat and a mouth with ~~that has~~ an axi-symmetrical waveguide surface ~~with an annular cross-section~~ extending therebetween, said throat disposed substantially adjacent said speaker driver, said waveguide surface having a circular cross-section along its entire length between said throat and said mouth, said waveguide surface being ~~which is~~ curvilinear with a smooth flare rate, said waveguide surface dispersing sound within the extended frequency range at a dispersion angle greater than 90 degrees.

20. (original) An audio speaker system according to claim 19, wherein:

said waveguide surface provides uniform polar dispersion at dispersion angles greater than 90 degrees for sound within the extended frequency range.

21. (original) An audio speaker system according to claim 19, wherein:

the extended frequency range includes a wide frequency band between 2 kHz and 11 kHz.

22. (original) An audio speaker system according to claim 19, wherein:

the extended frequency range includes a wide frequency band between 800 Hz and 11 kHz.

23. (original) An audio speaker system according to claim 19, wherein:

said speaker driver includes a radiating dome-shaped surface.

24. (original) An audio speaker system according to claim 19, wherein:

said speaker driver is rear-vented into a rear chamber that dissipates low frequency sound components.

25. (original) An audio speaker system according to claim 19, further comprising:

an annular gasket disposed in annular grooves outside a throat area of said horn.

26. (original) An audio speaker system according to claim 25, wherein:

said annular gasket is formed from a foam material.

27. (original) An audio speaker system according to claim 19, wherein:

said speaker driver comprises a ring-shaped neodymium magnet.

28. (original) An audio speaker system according to claim 19, wherein:

said speaker driver and horn are disposed coaxially with a low frequency speaker to thereby realize an integrated multi-element system.

29. (currently amended) An audio speaker system according to claim 19 [[16]], further comprising:

cross-over circuitry, operably coupled to said speaker driver, that provides high pass filtering with a cutoff frequency corresponding to the extended frequency range of said speaker driver.